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Memorandum

To: Paul La Courreys, EPA Region IX

Subject: Completed Work

cc: Susan Naughton, BEI ARCS

Attached is the following completed document:

PA _____ Summary PA X SI _____

Other _____

Site Name: Koll Oakmead Center

EPA ID #: CAD 983566811 (24)

City, County: Santa Clara, Santa Clara County, CA

For EPA Use Only

EPA Further Action Determination: NFRAP *Wong*

PA Lead: F

Sign Off Date: 11.29.91

Initials of Work Assignment Manager: *[Signature]*



Bechtel Environmental, Inc.

(3914)

Bechtel

50 Beale Street
San Francisco, CA 94105-1895
Mailing address: P.O. Box 193965
San Francisco, CA 94119-3965

Preliminary Assessment Summary

Site: Koll Oakmead Center
3350 Scott Blvd.
Santa Clara, CA 95054

Site EPA ID Number: CAD 983566811

Work Assignment Number: 60-14-9J00, ARCSWEST Program

Submitted to: Paul La Courreye
Work Assignment Manager
EPA Region IX

Date: November 8, 1991

Prepared by: Gary A. Yao

Review and Concurrence: Susan M. Naughton



Bechtel Environmental, Inc.

1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA), Region IX, under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), has tasked Bechtel Environmental, Inc. to conduct a Preliminary Assessment (PA) at the Koll Oakmead Center site in Santa Clara, Santa Clara County, California.

The purpose of the PA is to review existing information on the site and its environs to assess the threat(s), if any, posed to public health, welfare, or the environment and to determine if further investigation under CERCLA/SARA is warranted. The scope of the PA includes the review of information available from federal, state and local agencies, completion of a target survey, and performance of an onsite reconnaissance visit.

Using these sources of information, the site is then evaluated using EPA's Hazard Ranking System (HRS) criteria to assess the relative threat associated with actual or potential releases of hazardous substances at the site. The HRS has been adopted by the EPA to help set priorities for further evaluation and eventual remedial action at hazardous waste sites. The HRS is the primary method of determining a site's eligibility for placement on the National Priorities List (NPL). The NPL identifies sites at which EPA may conduct remedial response actions. This report summarizes the findings of these preliminary investigative activities.

Koll Oakmead Center was identified as a potential hazardous waste site and entered into the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) on August 22, 1990 (CAD 983566811).

1.1 Apparent Problem

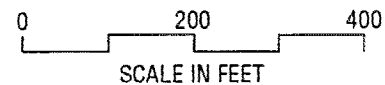
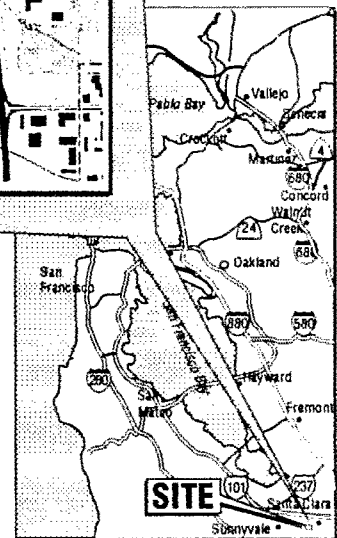
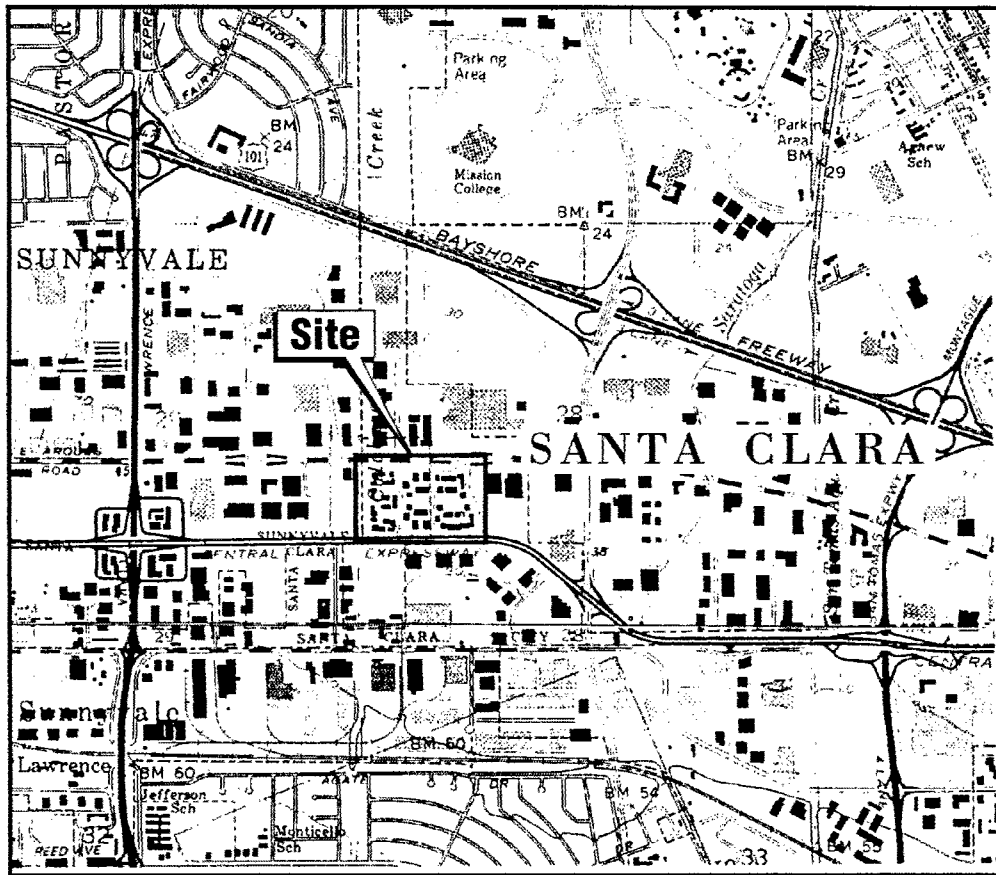
Ground water beneath the Koll Oakmead Center is contaminated with volatile organic compounds.

2.0 SITE DESCRIPTION

Koll Oakmead Center (the site) is located at 3350 Scott Boulevard in Santa Clara, California. The geographic coordinates are approximately 37° 22' 45" N latitude and 121° 59' 5" W longitude. According to the United States Geological Survey Map, Milpitas Quadrangle, the site is located in Section 28, Township 6 South, and Range 1 West of the Mount Diablo Baseline and Meridian. The location of the site is shown in Figures 2-1 and 2-2.

Koll Oakmead Center is a 30-acre condominium business park containing 65 individually owned buildings (1). Figure 2-3 is a map of the business park. Since some individuals own more than one building, there are actually only 55 separate owners (1).





Source: U.S. Geological Survey, 7.5 Minute Milpitas Quadrangle, Santa Clara County, California

Figure 2-1 Site Location Map



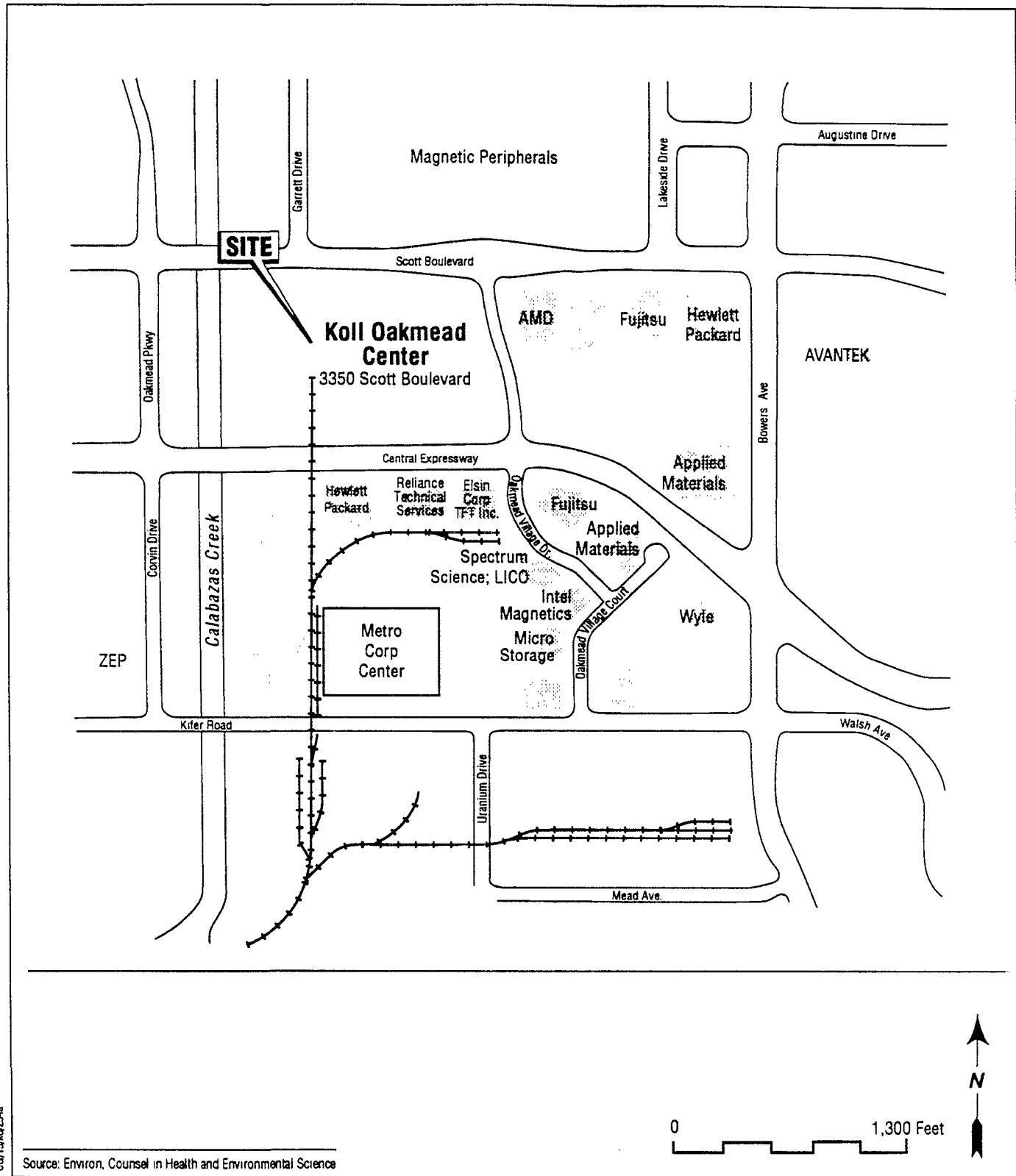


Figure 2-2 Vicinity Map



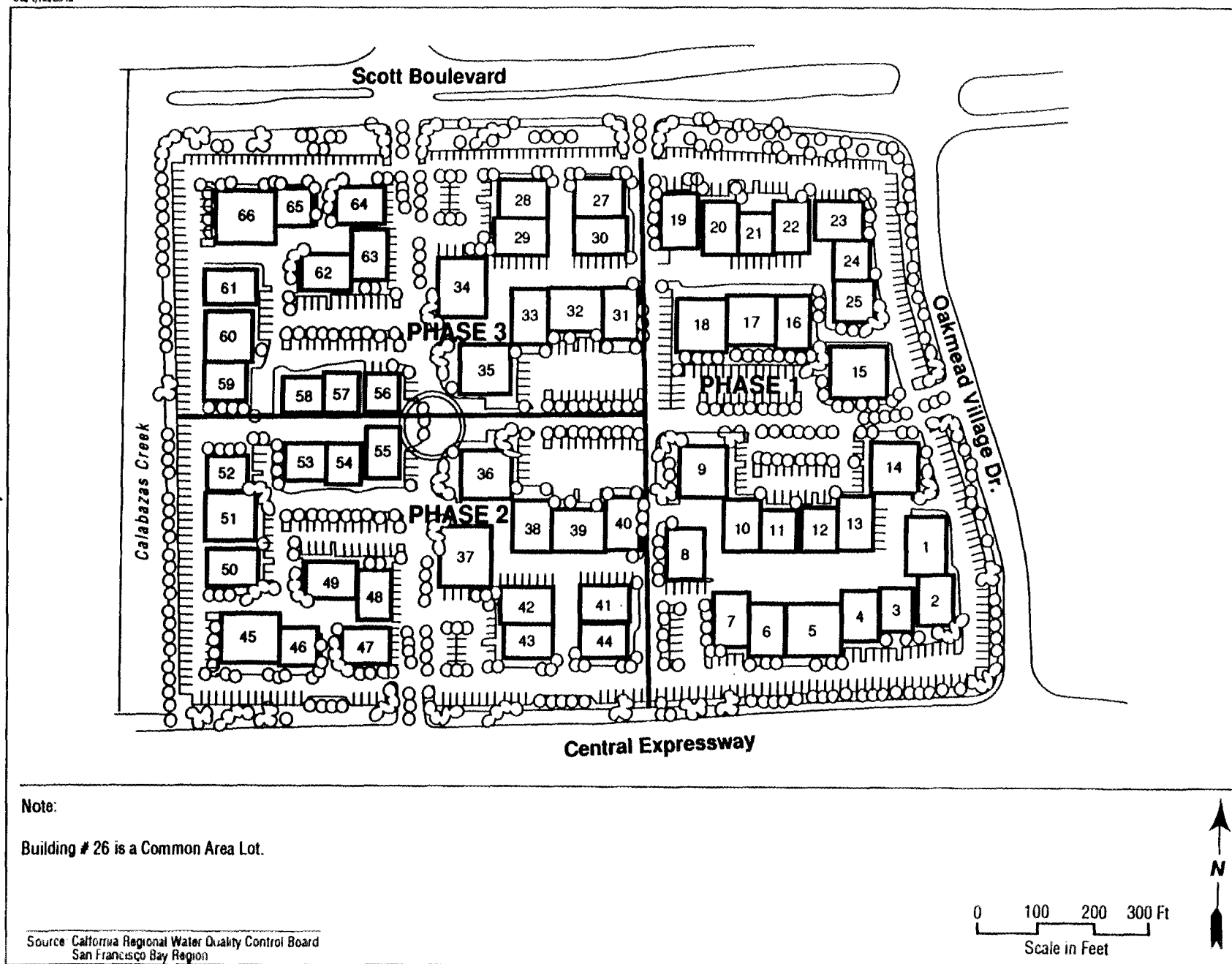


Figure 2-3 Business Park Map

3.0 REGULATORY INVOLVEMENT

3.1 California Regional Water Quality Control Board (RWQCB) - San Francisco Bay Region

In 1986, Monsanto Company, a tenant at Koll Oakmead Center, retained Weiss Associates to conduct a site assessment prior to subleasing Buildings 1 and 2 to Novellus Systems, Inc. Three shallow monitoring wells were installed during this investigation. Monitoring Wells N-1 and N-3 were installed near Building 1. Monitoring Well N-2 was installed regionally upgradient of Building 1 (1). Locations of these three monitoring wells are shown in Figure 3-1.

Ground-water samples from Well N-2 contained concentrations of 1,2-dichloroethene (1,2-DCE) up to 2,600 ppb, trichloroethene (TCE) up to 250 ppb, vinyl chloride up to 100 ppb, and 1,1-dichloroethene (1,1-DCE) up to 14 ppb. Ground-water samples from Wells N-1 and N-3 contained concentrations that were an order of magnitude less than the upgradient Well N-2. Ground-water flow in this area is toward the north-northeast. These sampling results indicated that the ground-water contamination was emanating from an offsite, upgradient source (1).

The RWQCB conducted a soil gas survey and ground-water grab sampling program in April and May of 1988 to investigate potential sources located south (upgradient) of Koll Oakmead Center (2). Ground-water samples were collected from 19 soil gas sampling points on the north and south sides of Central Expressway, and on the north and south sides of suspected, upgradient properties located across the expressway from the site. Figure 3-2 shows the soil gas sampling locations. Analytical results of samples collected from Well N-2 confirmed the existence of a ground-water plume, and identified one edge of the plume. The source of the ground-water contamination in Well N-2 was not found during this investigation (1, 2). Based on these results, the RWQCB required further investigation of Koll Oakmead Center.

In late 1989, the RWQCB issued Order No. 89-177 which required the owners of the buildings inside Koll Oakmead Center to conduct a soil and ground-water investigation. The purpose of this investigation was to determine the source and extent of the ground-water contamination below the southeastern portion (near Well N-2) of the business park (1). Most of the owners responded to this order through the Koll Center Community Association, a non-profit corporation established in 1977.

The characterization program conducted by ENVIRON (a contractor for the Koll Center Community Association) consisted of a soil gas survey and ground-water grab sampling program. Three additional shallow monitoring wells (Wells N-4, N-5 and N-6), and one deeper monitoring well (Well D-1) were installed (3). Soil gas and ground-water samples were all analyzed for volatile organic compounds. Sampling locations are shown in Figure 3-1.

Water level monitoring data from this investigation confirmed that ground-water flow in the shallow zone is toward the north-northeast, consistent with regional flow. It also indicated that the deep zone appeared to be confined with an upward vertical gradient from the deep to the shallow zone. This condition should minimize the potential for downward migration of contaminants from



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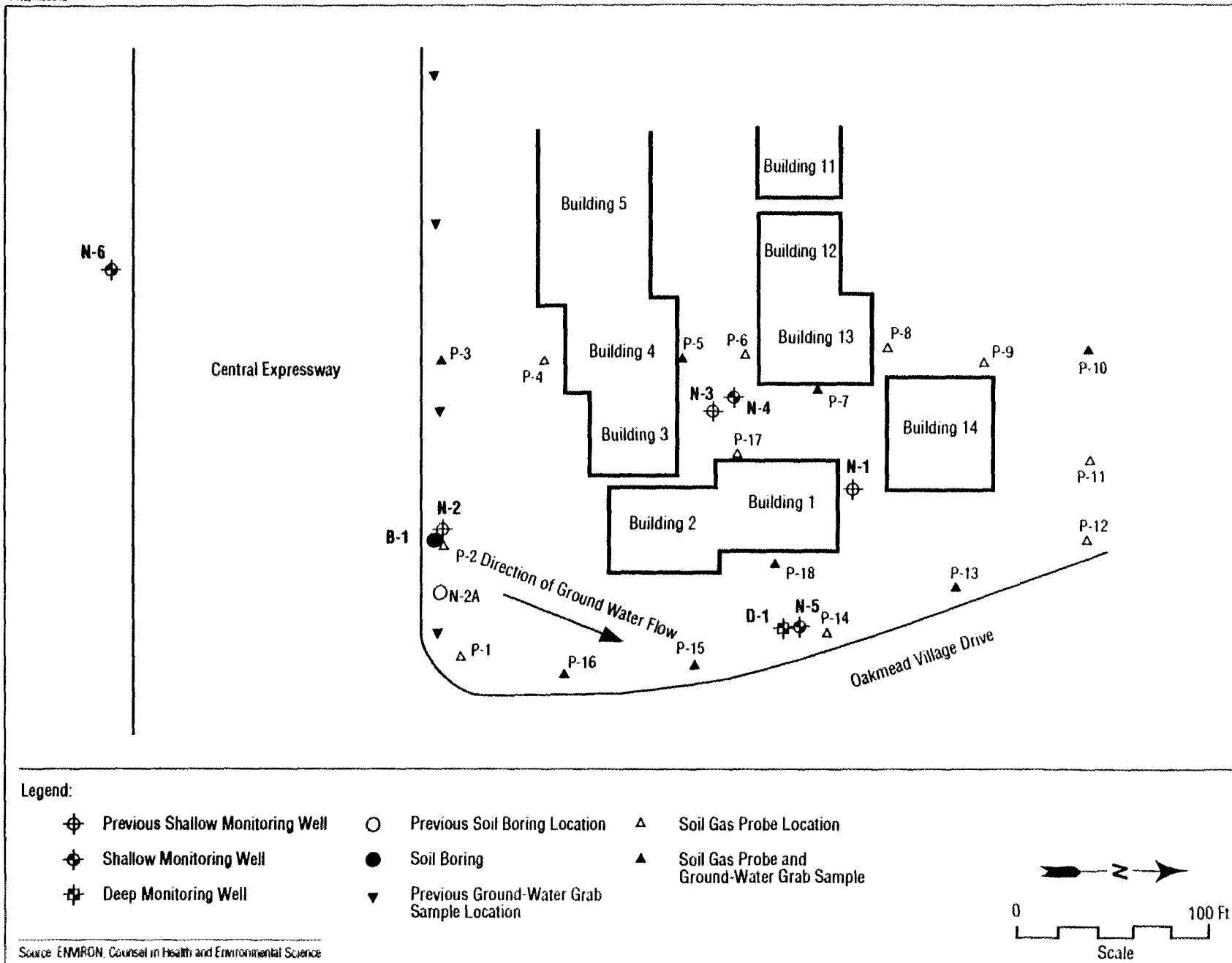


Figure 3-1 Monitoring Well and Sample Location Map

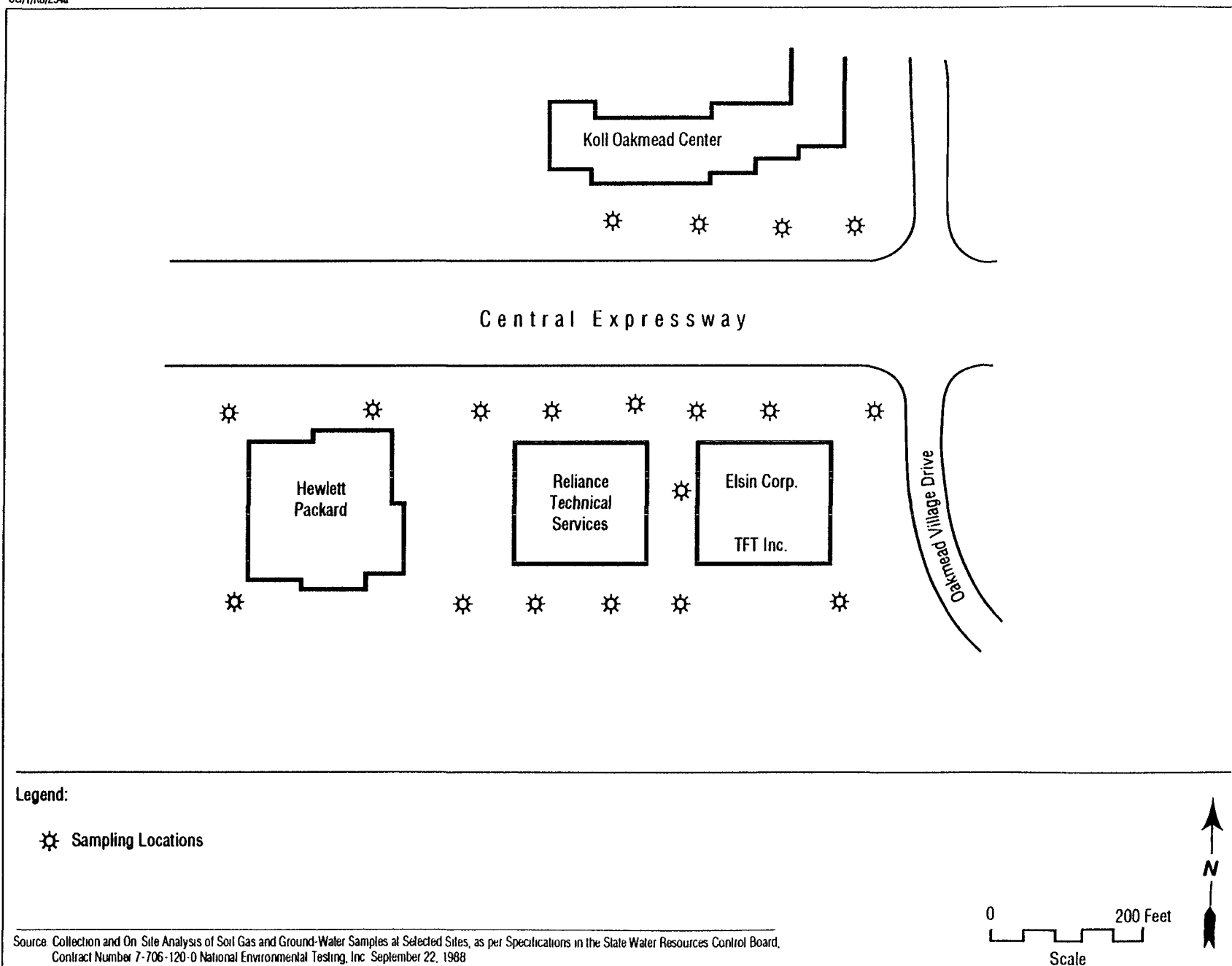


Figure 3-2 Soil Gas Sampling Locations

the shallow zone to the deeper zone. Samples taken from Well D-1 showed no detectable concentrations of volatile organic compounds (3).

The soil, soil gas and ground-water samples indicated the presence of an offsite, upgradient source for the contamination detected in the shallow ground water under Koll Oakmead Center. The specific location of this upgradient source, however, was not defined in this investigation (3).

In March of this year, the Koll Center Community Association and ENVIRON conducted a cone penetrometer survey of soils and ground-water sampling program near the site as required by the RWQCB (4). This survey was designed to provide information on ground-water quality below Central Expressway in the area between the Koll Oakmead Center and facilities to the south.

Cone penetrometer tests were conducted at five locations, which are shown in Figure 3-3. Probe CPT-1 was located near the contaminated Well N-2. The other four probes were located at intervals of approximately 50 feet along an east-west transect through the median strip of Central Expressway. All of the probes were located north (downgradient) of a storm drain which runs down the center of the Central Expressway median. A second storm drain and a sanitary sewer line parallel the southern shoulder of the expressway (4).

Ground-water samples were collected from the shallow zone at discrete depths between 15 and 27 feet below ground surface, and analyzed for volatile organic compounds. Analytical results showed that concentrations of 1,2-DCE were higher than 1,000 ppb in the vicinity of CPT-1 and CPT-3. The highest reported concentration of 1,2-DCE found inside the site occurred at Well N-2, which was located immediately downgradient of CPT-1 and CPT-3. Ground-water samples collected from CPT-2 and CPT-4 showed lower concentrations of 1,2-DCE and other volatile organic compounds. These results, combined with the analytical results from past investigations, showed that the ground-water contamination plume below the site originates from an area under the Central Expressway (4).

On June 21, 1991, the RWQCB informed the Koll Center Community Association that it was in general agreement with the conclusion contained in ENVIRON's reports that an offsite, upgradient source (below the Central Expressway) is affecting ground-water quality under the Koll Oakmead Center. The RWQCB is not requiring the association to perform further remedial investigations at the site, unless new data become available that indicate there are indeed onsite sources of contamination (5).

The RWQCB has now requested the owner of the upgradient property, the Santa Clara County Transportation Agency, to prepare a work plan to further define the source of the ground-water contamination under the Central Expressway (6).

3.2 Environmental Protection Agency (EPA)

In 1989, the EPA conducted a PA of a site (EPA ID CAD 982400012) located under the intersection of Central Expressway at Oakmead Village Drive (See Figure 2-2). This site is best described as an approximately one and one-half acre area of shallow ground-water contamination



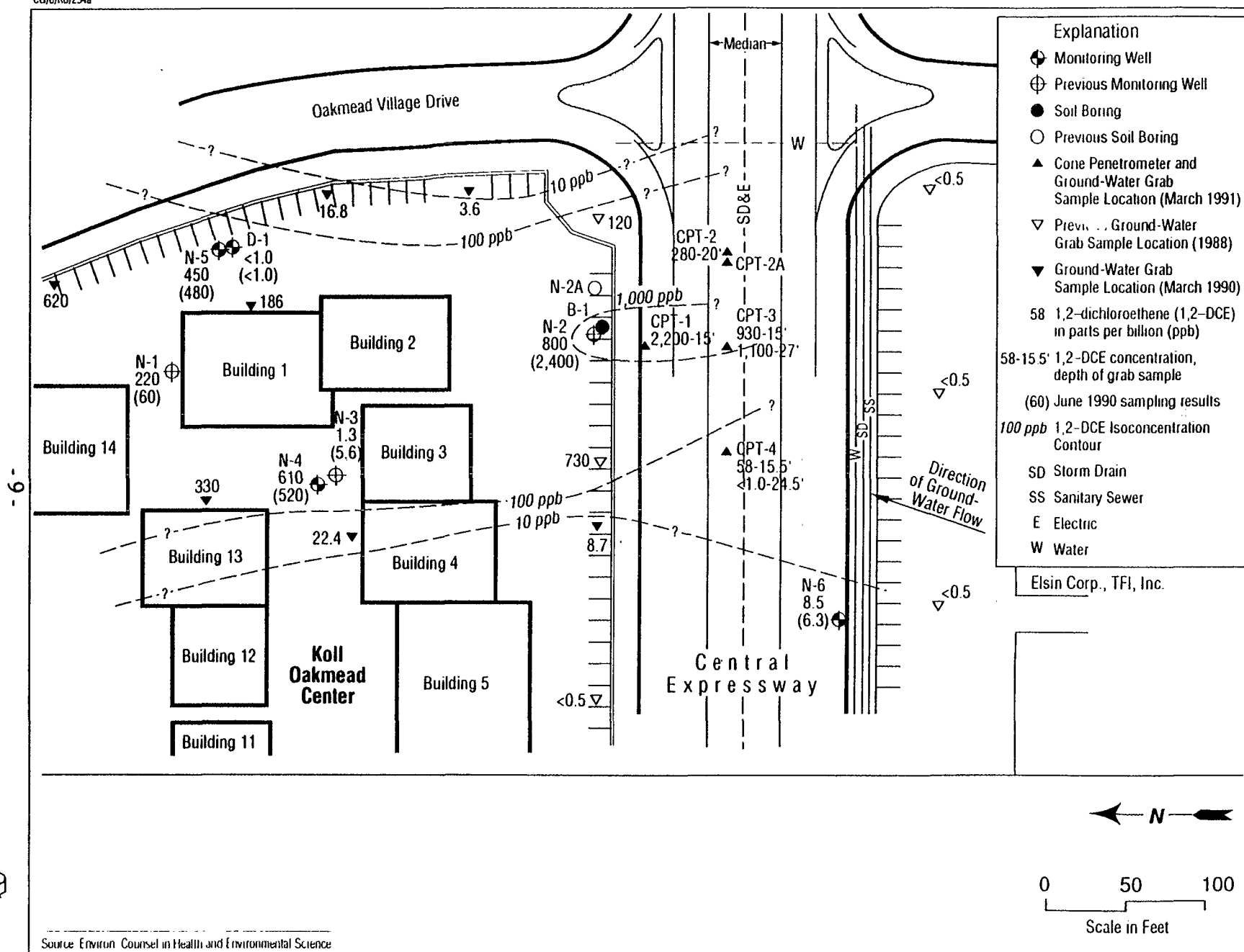


Figure 3-3 Cone Penetrometer and Ground-Water Grab Sample Locations



(7). This ground-water contamination plume is the same plume that was detected near Well N-2 by Weiss Associates. EPA recommended that investigation of this regional ground-water contamination problem be continued under the RWQCB's lead (7).

4.0 SUMMARY OF HRS CONSIDERATIONS

4.1 Waste Type and Characteristics

There are no known sources of volatile organic compounds inside the Koll Oakmead Center. Investigations conducted at the site and surrounding area strongly indicate that the ground-water contamination is emanating from an area under the Central Expressway, located upgradient from the site.

4.2 HRS Pathway of Concern

4.2.1 Ground-Water Pathway. The three major ground-water subbasins in the Santa Clara Valley are the Santa Clara Valley, Coyote, and Llagas subbasins. These basins are interconnected and occupy approximately 240,000 acres or approximately 30 percent of the total county land area (8). Koll Oakmead Center is located in the Santa Clara Valley subbasin.

The aquifer system within the Santa Clara subbasin is divided into the following hydrogeologic units: forebay, upper aquifer zone, and lower aquifer zone. The forebay area, which is located four miles south of the site, occurs along the elevated edges of the subbasin in the upper alluvial areas. The forebay consists predominantly of permeable materials with discontinuous or leaky aquitards. In the forebay, clay materials are absent and the aquifer zones form one large, unconfined aquifer (8).

Two major water-yielding zones have been defined in the Santa Clara Valley: a shallower, unconfined to semi-confined zone and a deeper, confined zone. The shallower zone, called the upper aquifer, consists of 80 to 100 feet of saturated sands and gravels with interbedded clays and silts. The depth to ground water in the upper aquifer ranges from 1.1 to 15.8 feet. A deeper, confined aquifer (hereafter called the lower aquifer) is separated from the upper aquifer by about 80 feet of finer-grained marine clays and fine silts with smaller amounts of sand. The lower aquifer begins at 150 feet below the land surface and extends to a depth of approximately 700 feet. It is the principal ground-water source in the Santa Clara Valley (9). Within the forebay region, the aquifers are demonstrated to be hydraulically interconnected.

The City of Santa Clara has 30 ground-water wells, all perforated in the lower aquifer. These wells supply 60 percent of the city's drinking water. The Santa Clara Valley Water District provides 22 percent, and Hetch Hetchy Reservoir contributes the remaining 18 percent. Approximately 93,000 people are served by the City of Santa Clara water distribution system (10).



The pertinent HRS factors for the site are:

- There are no known sources of volatile organic compounds at Koll Oakmead Center.
- The source of ground-water contamination has been determined to be offsite and upgradient.

5.0 EPA RECOMMENDATIONS

	Initial	Date
No Further Remedial Action Planned under CERCLA	<u>pol</u>	<u>12.29.91</u>
Higher-Priority SSI under CERCLA	_____	_____
Lower-Priority SSI under CERCLA	_____	_____
Defer to Other Authority (e.g., RCRA, TSCA, NRC)	_____	_____

Notes:



APPENDIX A

REFERENCE LIST

REFERENCE LIST

1. California Regional Water Quality Control Board (RWQCB)- San Francisco Bay Region, Site Cleanup Requirements for The Koll Center Community Association & All Owners at and of The Koll Oakmead Center - Order No. 89-177, November 15, 1989.
2. RWQCB, Collection and On-Site Analysis of Soil Gas and Ground-Water Samples at Selected Sites in Sunnyvale, CA, as per Specifications in the State Water Resources Control Board Contract Number 7-706-120-0, September 22, 1988.
3. ENVIRON Corporation, Site Characterization Report - Koll Oakmead Center, Santa Clara, California, June 15, 1990.
4. ENVIRON Corporation, Addendum to the Site Characterization Report - Koll Oakmead Center, Santa Clara, California, May 14, 1991.
5. Ritchie, Steven R., Executive Officer, and Morse, Stephen I., Chief of the South Bay Toxics Division, RWQCB, Letter to Ms. Donna Blazin of the Koll Center Community Association, June 21, 1991.
6. Ritchie, Steven R., Executive Officer, and Morse, Stephen I., Chief of the South Bay Toxics Division, RWQCB, Letter to Mr. Ray Hybarger of the Santa Clara County Transportation Agency requesting a ground-water investigation work plan, June 11, 1991.
7. U.S. Environmental Protection Agency - Region IX, Preliminary Assessment of Central Expressway/Oakmead Village (EPA ID CAD 982400012), July 25, 1989.
8. RWQCB, SEEHRL of University of California at Berkeley, and Santa Clara Valley Water District, Assessment of Contamination from Leaks of Hazardous Materials in the Santa Clara Ground-Water Basin - 205j Report, February, 1985.
9. Levine-Fricke, Joint Remedial Investigation/Feasibility Study (RI/FS) Report for Teledyne Semiconductor and Spectra-Physics, November 26, 1990.
10. Ma, Dennis K., Senior Water Engineer, of the City of Santa Clara Water Department, Questionnaire for Santa Clara Department of Water Distribution System, September 27, 1991.



APPENDIX B

CONTACT LOG

CONTACT LOG

Facility Name: Koll Oakmead Center
Facility ID: CAD983566811

Name	Affiliation	Phone #	Date	Information
Jan Fraser	EPA	415-744-2049	7/29/91	Ms. Fraser explained to me the procedure for accessing the RCRA/HWDMS database.
Altagracia Martinez	Computer Science Corp.'s FINDS Database Analyst at EPA	415-744-1792	7/29/91	Ms. Martinez explained the capabilities/features of the FINDS database.
Charlene Williams	CA Dept. of Health Services (DHS)	510-540-3855	7/29/91	Ms. Williams referred me to Ms. Doris Cruz regarding the DHS files.
Altagracia Martinez	Computer Science Corp.'s FINDS Database Analyst at EPA	415-744-1792	7/30/91	Bud Stafford and I met with Ms. Martinez. She gave us a short demonstration of the FINDS database. She said that she sent a "log-on application" for Bechtel to her company.
Dana Blake	Planning Resources Corp.'s RCRA/HWDMS Database Analyst at EPA	415-744-1483	7/30/91	I met with Mr. Blake at EPA and reviewed the RCRA files.
Steve Morse	CA Regional Water Quality Control Board (RWQCB)	510-464-0304	8/1/91	Referred me to Mr. Greg Bartow, contact person for the Koll Oakmead Center . site.



Name	Affiliation	Phone #	Date	Information
Greg Bartow	CA Regional Water Quality Control Board (RWQCB)	510-464-0741	8/2/91	Mr. Bartow told me that a PA was conducted near the Koll Oakmead Center. The ground-water contamination source is under the Central Expressway. He will send me the PA report.
Greg Bartow	CA Regional Water Quality Control Board (RWQCB)	510-464-0741	8/27/91	I met with Mr. Bartow, and borrowed the ENVIRON environmental reports conducted on the Koll Oakmead Center.
Dennis Ma	Santa Clara Water Dept.	408-984-3183	9/3/91	Mr. Ma told me to send him the Santa Clara Water Dept. Questionnaire that I made. Please see this questionnaire for more information.
Donna Blazin	Community Association Consulting	408-395-4430	9/5/91	I informed Ms. Blazin that EPA and Bechtel are conducting a PA on the Koll Oakmead Center. I told her that I'm sending her the Site Visit Confirmation Letter. She asked me to send a copy of the letter to Ms. Deborah Summers of the Law Offices of Wilson, Sonsini, Goodrich and Rosati.
Deborah Summers	Law Offices of Wilson, Sonsini, Goodrich and Rosati	415-493-9300	9/10/91	Susan Naughton and I called Ms. Summers. Ms. Summers told us that the RWQCB has already investigated the Koll Oakmead Center site, and has all the information on this site.
Greg Bartow	CA Regional Water Quality Control Board (RWQCB)	510-464-0741	9/10/91	I told Mr. Bartow that I'm sending a professional copier (Legal Beagle) to copy the rest of the Koll Oakmead Center file.



Celeste
Pls

Mon 22 Dec 1991 (3914)
CT

mail
thx!

Paul

Site: Koll Oakmead Center

TRANSMITTAL LIST

Mr. Don Plain, Chief
Site Evaluation Program
Department of Toxic Substances Control
California Environmental Protection Agency
P.O. Box 806
Sacramento, CA 94812-0806

Mr. Gregory W. Bartow
Associate Engineering Geologist
California Regional Water Quality Control Board
2101 Webster Street, Suite 500
Oakland, CA 94612

Ms. Donna Blazin
Community Association Consulting
126 Smith Creek Drive
Los Gatos, CA 95030

Ms. Deborah Summers
Law Offices of Wilson, Sonsini, Goodrich and Rosati
Two Palo Alto Square
Palo Alto, CA 94306

EPA



Potential Hazardous Waste Site Preliminary Assessment Form

Identification

State: CA CERCLIS Number: CAD983566811

CERCLIS Discovery Date: August 22, 1990

1. General Site Information

Name: Koll Oakmead Center		Street Address: 3350 Scott Boulevard			
City: Santa Clara	State: CA	Zip Code: 95054	County: Santa Clara	Co. Code: 085	Cong. Dist: 13
Latitude: 37° 22' 45.0"	Longitude: 121° 59' 4.5"	Approximate Area of Site: 30 Acres		Status of Site: <input checked="" type="checkbox"/> Active <input type="checkbox"/> Inactive <input type="checkbox"/> Not Specified <input type="checkbox"/> NA (GW plume, etc.)	
		Square Ft			

2. Owner/Operator Information

Owner: There are 55 different owners			Operator: operators.		
Street Address:			Street Address:		
City:			City:		
State:	Zip Code:	Telephone: ()	State:	Zip Code:	Telephone: ()
Type of Ownership: <input checked="" type="checkbox"/> Private <input type="checkbox"/> Federal Agency Name _____ <input type="checkbox"/> State <input type="checkbox"/> Indian <input type="checkbox"/> County <input type="checkbox"/> Municipal <input type="checkbox"/> Not Specified <input type="checkbox"/> Other _____			How Initially Identified: <input type="checkbox"/> Citizens Complaint <input type="checkbox"/> PA Position <input type="checkbox"/> State/Local Program <input type="checkbox"/> RCRA/CERCLA Notification <input type="checkbox"/> Federal Program <input type="checkbox"/> Incidental <input checked="" type="checkbox"/> Not Specified <input type="checkbox"/> Other _____		

3. Site Evaluator Information

Name of Evaluator: Mr. Gary A. Yao	Agency/Organization: Bechtel Environmental, Inc.	Date Prepared: November 4, 1991
Street Address: 50 Beale Street	City: San Francisco	State: CA
Name of EPA or State Agency Contact: Mr. Paul LaCourrege	Street Address: 75 Hawthorne Street	
City: San Francisco	State: CA	Telephone: (415) 744-2345

4. Site Disposition (for EPA use Only)

Emergency Response/Removal Assessment Recommendation: <input type="checkbox"/> Yes <input type="checkbox"/> No Date: _____	CERCLIS Recommendation: <input type="checkbox"/> Higher Priority SI <input type="checkbox"/> Lower Priority SI <input type="checkbox"/> NFRAP <input type="checkbox"/> RCRA <input type="checkbox"/> Other _____ Date: _____	Signature: Name (typed): Position:
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Potential Hazardous Waste Site
Preliminary Assessment Form - Page 2 of 4

CERCLIS Number:

CAD983566811

5. General Site Characteristics

Proximate Land Use Within 1 Mile of Site (Check all that apply):		Site Setting:	
<input checked="" type="checkbox"/> Industrial <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Residential <input type="checkbox"/> Forest/Fields		<input checked="" type="checkbox"/> Urban <input type="checkbox"/> Suburban <input type="checkbox"/> Rural	
Proximate Land Use Within 1 Mile of Site (Check all that apply):		Years of Operation:	
<input checked="" type="checkbox"/> Agriculture <input type="checkbox"/> Mining <input type="checkbox"/> DOD <input type="checkbox"/> DOE <input type="checkbox"/> Other		Beginning Year _____ Ending Year _____ <input checked="" type="checkbox"/> Unknown	
Type of Site Operations (check all that apply):			
<input checked="" type="checkbox"/> Manufacturing (must check subcategory)			
<input type="checkbox"/> Lumber and Wood Products			
<input type="checkbox"/> Inorganic Chemicals			
<input type="checkbox"/> Plastics and/or Rubber Products			
<input type="checkbox"/> Paints, Varishes			
<input type="checkbox"/> Industrial Organic Chemicals			
<input type="checkbox"/> Agricultural Chemicals			
<input type="checkbox"/> (e.g., pesticides, fertilizers)			
<input type="checkbox"/> Miscellaneous Chemical Products			
<input type="checkbox"/> (e.g., adhesives, explosives, ink)			
<input type="checkbox"/> Primary Metals			
<input type="checkbox"/> Metal Coating, Plating, Engraving			
<input type="checkbox"/> Metal Forging, Stamping			
<input type="checkbox"/> Fabricated Structural Metal Products			
<input checked="" type="checkbox"/> Electronic Equipment			
<input checked="" type="checkbox"/> Other Manufacturing			
<input type="checkbox"/> Mining			
<input type="checkbox"/> Metals			
<input type="checkbox"/> Coal			
<input type="checkbox"/> Oil and Gas			
<input type="checkbox"/> Non-metallic Minerals			
<input type="checkbox"/> Retail			
Waste Generated:		Waste Disposition Authorized By:	
<input type="checkbox"/> Onsite <input type="checkbox"/> Offsite <input type="checkbox"/> Onsite and Offsite		<input type="checkbox"/> Private Owner <input type="checkbox"/> Former Owner <input type="checkbox"/> Present and Former Owner <input type="checkbox"/> Unauthorized <input type="checkbox"/> Unknown	
Waste Accessible to the Public:		Distance to Nearest Dwelling, School, or Workplace:	
<input type="checkbox"/> Yes <input type="checkbox"/> No		_____ Feet	

6. Waste Characteristics Information

Source Type: (check all that apply)	Source Waste Quantity: (include units)	Tier: ^a	General Types of Waste (check all that apply):
<input type="checkbox"/> Landfill	_____	_____	<input type="checkbox"/> Metals <input type="checkbox"/> Organics <input type="checkbox"/> Inorganics <input type="checkbox"/> Solvents <input type="checkbox"/> Pesticides/Herbicides <input type="checkbox"/> Laboratory/Hospital Waste <input type="checkbox"/> Radioactive Waste <input type="checkbox"/> Oil Waste <input type="checkbox"/> Acids/Bases <input type="checkbox"/> Construction/Demolition Waste <input type="checkbox"/> Municipal Waste <input type="checkbox"/> Mining Waste <input type="checkbox"/> Explosives <input type="checkbox"/> Other
<input type="checkbox"/> Surface Impoundment	_____	_____	
<input type="checkbox"/> Drums	_____	_____	
<input type="checkbox"/> Tanks and Non-Drum Containers	_____	_____	
<input type="checkbox"/> Chemical Waste Pile	_____	_____	
<input type="checkbox"/> Scrap Metal or Junk Pile	_____	_____	
<input type="checkbox"/> Tailings Pile	_____	_____	
<input type="checkbox"/> Trash Pile (open dump)	_____	_____	
<input type="checkbox"/> Land Treatment	_____	_____	
<input type="checkbox"/> Contaminated Ground Water Plume (unidentified source)	_____	_____	
<input type="checkbox"/> Contaminated Surface Water/Sediment (unidentified source)	_____	_____	
<input type="checkbox"/> Contaminated Soil	_____	_____	
<input type="checkbox"/> Other _____	_____	_____	
<input checked="" type="checkbox"/> No Sources			
Physical State of Waste as Deposited (check all that apply):			
<input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Sludge <input type="checkbox"/> Gas <input type="checkbox"/> Powder			

^a C = Contaminant, W = Watercourse, V = Volume, A = Area

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7. Ground Water Pathway

Is Ground Water Used for Drinking Water Within 4 Miles:

- ☐ Yes
☐ No

Type of Drinking Water Wells Within 4 Miles (check all that apply):

- ☐ Municipal
☐ Private
☐ None

Is There a Suspected Release to Ground Water:

- ☐ Yes
☐ No

Have Primary Target Drinking Water Wells Been Identified:

- ☐ Yes
☐ No

If Yes, Enter Primary Target Population:

_____ People

List Secondary Target Population Served by Ground Water Withdrawn From:

0 - 1/4 Mile _____

> 1/4 - 1/2 Mile _____

> 1/2 - 1 Mile _____

> 1 - 2 Miles _____

> 2 - 3 Miles _____

> 3 - 4 Miles _____

Total Within 4 Miles _____

Depth to Shallowest Aquifer:

_____ Feet

Karst Terrain/Aquifer Present:

- ☐ Yes
☐ No

Nearest Designated Wellhead Protection Area:

- ☐ 0 - 1/4 Mile
☐ > 1/4 - 1/2 Mile
☐ None within 4 Miles

8. Surface Water Pathway

Type of Surface Water Draining Site and 15 Miles Downstream (Check all that apply):

- ☐ Stream ☐ River ☐ Pond ☐ Lake
☐ Bay ☐ Ocean ☐ Other _____

Shortest Overland Distance From Any Source to Surface Water:

_____ Feet

_____ Miles

Is There a Suspected Release to Surface Water:

- ☐ Yes
☐ No

Site is Located in:

- ☐ Annual - 10 yr Floodplain
☐ > 10 yr - 100 yr Floodplain
☐ > 100 yr - 500 yr Floodplain
☐ > 500 yr Floodplain

Drinking Water Intakes Located Along the Surface Water Migration Path:

- ☐ Yes
☐ No

Have Primary Target Drinking Water Intakes Been Identified:

- ☐ Yes
☐ No

If Yes, Enter Population Served by Primary Target Intakes:

_____ People

List All Secondary Target Drinking Water Intakes:

Name	Water Body	Flow (cfs)	Population Served
------	------------	------------	-------------------

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Total within 15 Miles _____

Fisheries Located Along the Surface Water Migration Path:

- ☐ Yes
☐ No

Have Primary Target Fisheries Been Identified:

- ☐ Yes
☐ No

List All Secondary Target Fisheries:

Water Body/Fishery Name	Flow (cfs)
-------------------------	------------

_____	_____
_____	_____
_____	_____

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Potential Hazardous Waste Site
Preliminary Assessment Form - Page 4 of 4

CERCLIS Number:

CAD983566811

8. Surface Water Pathway (continued)

Wetlands Located Along the Surface Water Migration Path:

- ☐ Yes
☐ No

Have Primary Target Wetlands Been Identified:

- ☐ Yes
☐ No

List Secondary Target Wetlands:

Water Body	Flow (cfs)	Frontage Miles
_____	_____	_____
_____	_____	_____
_____	_____	_____

Other Sensitive Environments Located Along the Surface Water Migration Path:

- ☐ Yes
☐ No

Have Primary Target Sensitive Environments Been Identified:

- ☐ Yes
☐ No

List Secondary Target Sensitive Environments:

Water Body	Flow (cfs)	Sensitive Environment Type
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

9. Soil Exposure Pathway

Are People Occupying Residences or
Attending School or Day Care on or Within
200 Feet of Areas of Known or Suspected
Contamination:

- ☐ Yes
☐ No

If Yes, Enter Total Resident Population:

_____ People

Number of Workers Onsite:

- ☐ None
☐ 1 - 100
☐ 101 - 1,000
☐ > 1,000

Have Terrestrial Sensitive Environments Been Identified on
or Within 200 feet of the site:

- ☐ Yes
☐ No

If Yes, List Each Terrestrial Sensitive Environment:

10. Air Pathway

Is There a Suspected Release to Air:

- ☐ Yes
☐ No

Enter Total Population on or within:

Onsite	_____
0 - ¼ Mile	_____
> ¼ - ½ Mile	_____
> ½ - 1 Mile	_____
> 1 - 2 Miles	_____
> 2 - 3 Miles	_____
> 3 - 4 Miles	_____
Total Within 4 Miles	_____

Wetlands located within 4 Miles of the Site:

- ☐ Yes
☐ No

Other Sensitive Environments Located within 4 Miles of the Site:

- ☐ Yes
☐ No

List All Sensitive Environments within ¼ Mile of the Site:

Distance Sensitive Environment Type/Wetlands Area (acres)

Onsite	_____
0 - ¼ Mile	_____
> ¼ - ½ Mile	_____

DRAFT
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